

$$|0\rangle^{\otimes n} \mapsto |0\rangle^{\otimes m}$$

$$|1\rangle^{\otimes n} \mapsto e^{i\alpha} |1\rangle^{\otimes m}$$

$$|+\rangle^{\otimes n} \mapsto |+\rangle^{\otimes m}$$

$$|-\rangle^{\otimes n} \mapsto e^{i\alpha} |-\rangle^{\otimes m}$$